

Claims

1. A data carrier (1), in particular document of value, having at least a first halftone image (2) represented by spaced, linear structural elements (5), a desired tonal value of the halftone image (2) being realized by suitable modulation of the width (y) of the linear structural elements (5), and the linear structural elements (5) each comprising a baseline (7) with respect to which the width (y) is modulated, characterized in that, at least in a detail (3; 4) of the halftone image (2), the width (y) of the linear structural elements (5) is modulated at each place only on one side of the particular baseline (7) so that the linear structural elements (5) are flat on one side and width-modulated on one side.

2. A data carrier according to claim 1, comprising a second halftone image likewise represented by spaced, width-modulated, linear structural elements (8) that are disposed adjacent to the structural elements (5) of the first halftone image (2) such that adjacent structural elements (5, 8) are associated alternately with the first halftone image (2) and the second halftone image.

3. A data carrier according to claim 2, wherein the second halftone image is also a halftone image with the features of claim 1.

4. A data carrier according to claim 2 or 3, wherein adjacent structural elements (5, 8) have mutually contrasting colors.

5. A data carrier according to any of claims 2 to 4, wherein adjacent structural elements (5, 8) are present on adjacent flanks (10, 11) of a relief substrate material (9).

6. A data carrier according to claim 5, wherein the first halftone image (2) and the second halftone image are identical.

7. A data carrier according to claim 5, wherein the first halftone image (2) and the second halftone image are different.

8. A data carrier according to claim 1, characterized in that the halftone image has two or more groups of linear structural elements (15, 16), the structural elements

(15, 16) of the same group having the same color and alignment, while the structural elements of different groups have different colors and are differently aligned.

9. A data carrier according to claim 8, characterized in that the halftone image has groups of structural elements having the colors, cyan, magenta and yellow, in each case.

10. A data carrier according to claim 8 or 9, characterized in that the halftone image has three groups of structural elements forming an angle of 15, 45 and 75° to the horizontal in each case.

11. A data carrier according to any of claims 1 to 10, wherein the first halftone image (2) has integrated therein an image not perceptible to the eye and having a pre-determined contour (12), by the linear structural elements (5) of the first halftone image (2) being width-modulated on another side of their particular baseline (7) within the contour (12) than in an area of the first halftone image (2) surrounding the contour (12).

12. A data carrier according to any of claims 1 to 11, wherein adjacent structural elements (5; 5, 8) are width-modulated in opposite directions with respect to their particular baseline (7).

13. A data carrier according to claim 12, wherein the distances (d , e) between the baselines (7) of adjacent structural elements (5; 5, 8) are small where the structural elements are adjacent with their flat sides (7), while being great where the structural elements are adjacent with their width-modulated sides.

14. A data carrier according to claim 13, wherein the small distances (e) are smaller than 150 microns.

15. A data carrier according to any of claims 1 to 14, wherein the linear structural elements (5) are disposed mutually offset in at least two adjacent partial areas (13, 14) of the first halftone image (2).

16. A data carrier according to claim 15, wherein the distances (a ; a , b , c) between the baselines (7) of adjacent structural elements (5) are different in the two adjacent partial areas (13, 14).

17. A data carrier according to any of claims 1 to 16, wherein the distances (a , b , c) between the baselines (7) are different at least within a partial area of the first halftone image (2).

18. A data carrier according to claim 17, wherein the partial area with differently spaced baselines (7) forms at least one bar code formed by the linear structural elements (5), the smooth sides (7) of the structural elements (5) indicating the beginning and/or the end of a bar, and the distance (a , b , c ; d) between the smooth sides (7) of the structural elements (5) indicating the information to be associated with a bar.

19. A data carrier according to claim 18 dependent on claim 12, wherein the opposite smooth sides (7) of adjacent structural elements (5; 5, 8) form a separating line between two adjacent bars, so that the structural elements (5; 5, 8) width-modulated in opposite directions form bars of a bar code readable in opposite directions.

20. A data carrier according to any of claims 1 to 19, wherein the baselines (7) are curved.

21. A data carrier according to any of claims 1 to 20, characterized in that the structural elements have a density (screen ruling) of 30 to 60 per centimeter.

22. A data carrier according to any of claims 1 to 21, wherein a tonal value below a predetermined limiting value is represented by linear structural elements (5) comprising spaced-apart structural element sections (5c).

23. A data carrier according to any of claims 1 to 22, wherein the first halftone image (2) represents a logo, writing or pictorial representation.

24. A data carrier according to any of claims 1 to 23 in the form of a document of value, selected from the following group of documents of value: bank note, check,

share, identification document, admission ticket, travel ticket, certificate, credit card, check card.

25. A halftone image comprising spaced linear structural elements, a desired tonal value of the halftone image (2) being realized by suitable modulation of the width (y) of the linear structural elements (5), and the linear structural elements (5) each comprising a baseline (7) with respect to which the width (y) is modulated, characterized in that, at least in a detail (3; 4) of the halftone image (2), the width (y) of the linear structural elements (5) is modulated at each place only on one side of the particular baseline (7) so that the linear structural elements (5) are flat on one side and width-modulated on one side.

26. A linear structural element for producing screened picture motifs, the structural element comprising a baseline with respect to which the width is modulated, characterized in that the width of the linear structural element is modulated at each place only on one side of the particular baseline so that the linear structural element is flat on one side and width-modulated on one side.